

NAVSHIPREPFAC YOKOSUKA  
LOCAL STANDARD ITEM

FY-00

ITEM NO: 099-11YO  
DATE: 01 JUL 1999  
CATEGORY: II

1. SCOPE:

1.1 Title: Insulation and Lagging Requirements; accomplish

2. REFERENCES:

- a. NAVSHIPREPFAC Yokosuka Local Standard Items
- b. NAVSHIPREPFACINST 5100.8, **Occupational Safety and Health (OSH)** Program Manual
- c. MIL-STD-769, Thermal Insulation Requirements for Machinery and Piping
- d. OPNAVINST 5100.23, Navy Occupational Safety and Health Program Manual
- e. 804-5959212, Surface Ship Machinery Insulation - Installation Details
- f. 804-5959214, Piping Insulation-Installation Details
- g. 804-5773931, Insulation for Compartments, Acoustic and Thermal Installation Details
- h. 804-5773932, Insulation for Ducts, Acoustic and Thermal Installation Details
- i. 4823-C-3160935, Fasteners for Insulation and Lagging

3. REQUIREMENTS:

3.1 Remove existing insulation, lagging, and reusable covers in accordance with 2.b.

3.1.1 Accomplish the requirements of 099-09YO of 2.a.

3.1.2 Consider the insulation and lagging to be asbestos-containing material (ACM), until it can be established by laboratory analysis or visual inspection of markings (red tinted adhesive, red dyed cloth, stenciling or metal-affixed tag on lagging), that the material does not contain asbestos. A laboratory analysis shall be conducted at the junction of marked and unmarked material to ensure proper control of ACM. This

includes reusable covers as defined in 2.c.

3.1.3 All ACM handling shall be accomplished by certified personnel in accordance with Chapter 17 of 2.d.

3.1.4 Submit a report listing results of the visual inspection for the existing insulation and lagging to NAVSHIPREPFAC **Occupational Safety** and Health Office, Code 120 with Contractors Thermal Insulation Removal Information Sheet [SRF 5100/58(7-90)] for Contractor use and Pre-Planning for Asbestos/Non-Asbestos Insulation Removal Operation [SRF Yokosuka 5100/45 (Rev 4-89)] for In-House use. Include a copy of the first page of Work Item.

3.1.4.1 In the event that the insulation or lagging material cannot be identified by the visual inspection, deliver a sample of the existing insulation or lagging to NAVSHIPREPFAC **Occupational Safety** and Health Office, Code 120.

3.1.5 Provide the personal protection equipment in accordance with Chapters 17 and 26 of 2.d.

3.1.6 Removed asbestos waste shall be placed in red poly bags doubled, goosenecked and sealed with tape in the work place and disposed of in the white asbestos container provided by NAVSHIPREPFAC.

3.1.7 Removed fibrous glass, calcium silicate, mineral wool and other non-asbestos insulation waste and scrap shall be placed in clear plastic bags, warning labels attached, placed again in second bags, twisted tops, and sealed with tapes.

3.1.8 Do not accomplish other routine work in the space or compartment where asbestos insulation and lagging are removed, until these have been certified free of asbestos by NAVSHIPREPFAC **Occupational Safety** and Health Office, Code 120.

3.2 Install new insulation, lagging, and reusable covers in accordance with 2.c and 2.e through 2.h.

3.2.1 Use of ceramic fiber insulation conforming to MIL-I-23128, elastomeric foam conforming to MIL-P-15280 and polyphosphazene conforming to MIL-I-24703 are not permitted.

3.2.2 Install Armstrong NH Armflex or **K-Flex ECO**, on anti-sweat and refrigeration systems that have an operating temperature range of minus 20 degrees to 180 degrees Fahrenheit, in accordance with Electric Boat Specification No. 4013 (Anti-Sweat and Refrigeration Systems).

3.2.2.1 Adhesive shall conform to Armstrong 520 or Robatex 373.

3.2.2.2 Install rewettable fibrous glass cloth lagging conforming to MIL-G-20079, Type I, Class 6 or 8, in high traffic areas.

3.2.3 Utilize Polyimide foam insulation conforming to DOD-I-24688 for piping and machinery systems other than systems listed in 3.2.2, and with a maximum operating temperature of 370 degrees Fahrenheit.

3.2.4 Accomplish the requirements of 099-12YO of 2.a for studs of the compartment insulation.

3.2.5 Accomplish the requirements of 099-32YO of 2.a for surfaces to be insulated.

3.2.6 Apply red tinted adhesive conforming to MIL-A-3316, Class One, Grade B or red dyed fiberglass cloth conforming to MIL-C-20079 over newly insulated surfaces, except insulation for compartments and ducts.

3.2.6.1 Take precautions to preclude application of red tinted adhesive or red dyed fiberglass cloth beyond boundaries of newly installed insulation and lagging to prevent erroneous identification of the existing insulation and lagging.

3.2.6.2 Install one-half inch minimum width stainless steel bands to the outer covering of the insulation to identify asbestos-free boundaries on piping.

3.2.7 Secure reusable covers lacing washers with brass or soft steel galvanized wire through lacing hooks, using 2.i for guidance, and identify the reusable covers with aluminum tags on which red letters, ASBESTOS-FREE, are printed, except insulation for compartments and ducts.

3.2.7.1 Stamp the surface of the lacing washers on the reusable cover with letters, NO AB, located close to the outer edge of the washer and visible when the reusable cover is installed.

3.3 Accomplish the requirements of 099-32YO of 2.a for new insulation, lagging, and reusable covers to match surrounding areas.

#### 4. NOTES:

4.1 Known source for Electric Boat Specification No. 4013:

General Dynamics Company  
Dept. 447 Material Services  
Attn: K. Hamler  
75 Eastern Point Road  
Groton, CT 06340-4899

Tel: 860-433-2373

4.2 Known source for rewettable fibrous glass cloth lagging:

BGF Industries, Inc.  
3802 Robert Porcher Way  
Greensboro, NC 27410  
Tel: 800-925-1961  
Fax: 910-545-0233